

WHAT IS CLAIMED IS:

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1. An elevator system, comprising:
a hoistway having a plurality of hoistway doors;
an elevator car and at least one counterweight located in the hoistway;
and
5 a drive motor drivingly coupled to the elevator car and counterweight
via elongated connectors, the drive motor being located adjacent to one of a top and
bottom portion of a hoistway door.

2. An elevator system as defined in claim 1, wherein the drive
motor is located above a top portion of a topmost hoistway door.

~~3. An elevator system as defined in claim 2, wherein the drive
motor is located adjacent to and across a hallway landing of the topmost hoistway
door.~~

4. An elevator system as defined in claim 1, wherein the drive
motor is located below a bottom portion of a bottommost hoistway door.

5. An elevator system as defined in claim 1, wherein the drive
motor is located below a bottom portion of a hoistway door.

6. An elevator system as defined in claim 1, further including a
housing for substantially enclosing the drive motor relative to an adjacent hallway.

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7. An elevator system as defined in claim 6, wherein the housing
includes a movable panel protruding externally of the hoistway into an adjacent
elevator hallway.

8. An elevator system as defined in claim 7, wherein the movable
panel is located above a hoistway door.

9. An elevator system as defined in claim 7, wherein the movable
panel is defined by a hallway landing.

9 10. An elevator system as defined in claim 6, further including a drive unit and a controller, and wherein the drive motor, drive unit and controller are substantially enclosed by the housing.

3 11. An elevator system as defined in claim 1, further including a control cabinet and a drive motor controller supported thereon, the control cabinet being located at a side of a hoistway door and slidably movable from a first position within the hoistway to a second position in an adjacent elevator hallway for easy and safe access to the controller.

Fig 6 5 12. An elevator system as defined in claim 1, wherein the elongated connector is a flat rope.

Fig 2 13. An elevator system as defined in claim 1, further including at least two elevator sheaves coupled to an underside of the elevator car, and wherein a portion of the elongated connector underslings the elevator car to minimize overhead space between a top of the elevator car and a ceiling of the hoistway.

4 Fig 1 14. An elevator system as defined in claim 13, wherein the drive motor includes a drive sheave, and further includes a first deflector sheave and a second deflector sheave axially coupled to the first deflector sheave, the first and second deflector sheaves being disposed in the hoistway and above the elevator car, the first deflector sheave having a diameter larger than that of the second deflector sheave, and the second deflector sheave having a diameter about the same as that of the drive sheave, an additional connector drivingly coupling the drive sheave to the first deflector sheave, and said elongated connector coupled to the second deflector sheave and to the elevator car, whereby the first and second deflector sheaves rotate at a smaller revolutions per minute relative to the drive sheave to produce a gearing effect to the drive motor.

4 15. An elevator system as defined in claim 14, wherein the drive motor is gearless.

5 Fig 8 16. An elevator system as defined in claim 1, further including first and second support columns each being generally hollow and extending vertically along a vertical portion of the hoistway associated with elevator car travel, the first and second support columns being disposed adjacent opposite sidewalls of the elevator car relative to each other, and wherein the at least one counterweight

includes first and second counterweights respectively disposed within the first and second support columns.

17. An elevator system, comprising:

a hoistway having a plurality of hoistway doors;

an elevator car and at least one counterweight located in the hoistway;

a drive motor drivingly coupled to the elevator car and counterweight

5 via elongated connectors, the drive motor being located adjacent to one of a top and bottom portion of a hoistway door; and

a control cabinet and a drive motor controller supported on the control cabinet, the control cabinet being disposed at a side of a hoistway door and slidably movable from a first position within the hoistway to a second position in an
10 adjacent elevator hallway for easy and safe access to the controller.

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